

15

-continued

Image portion covered with said ink =

$$\frac{P}{(W\bar{x}) * (S\bar{y}) * 8};$$

whereby a set of variables of the algorithm are defined as follows:

PI=a memory address of a first image data byte;

PY=a current scan line address;

PX=a current byte address;

S=a total number of scans in the digitized image;

W=a width of scan line in bytes;

P=a total number of pixels turned on;

X=a first random variable with a sample value x and a mean value \bar{x} , approximately uniformly distributed between:

$$\frac{1}{2} \bar{x} \text{ and } \frac{3}{2} \bar{x}; \text{ and}$$

Y=a second random variable with a sample value y and a mean value \bar{y} , approximately uniformly distributed between:

$$\frac{1}{2} \bar{y} \text{ and } \frac{3}{2} \bar{y}.$$

19. A method for estimating pixel coverage in a digitized image comprising:

sampling pixels in a byte stream according to a varied spacing mode so as to avoid image pattern errors; and summing said pixels in said sampled bytes, whereby said processor provides an estimate of a total number of pixels turned on in said digitized image.

20. The method of claim 19, further comprising using a look-up table to select each address of said bytes sampled in said byte stream.

21. The method of claim 20, further comprising:

using a look-up table to sample each digitized image; and entering the look-up table at a new starting address to begin each reuse of the look-up table.

22. The method of claim 19, comprising using a random number generator to select each address of said bytes sampled in said byte stream.

23. The method of claim 19, comprising using a look-up table to select each pixel address for sampling pixels within said byte.

24. The method of claim 19, comprising providing the estimated total number of pixels turned on to a printer service status indicator for indicating the status of a set of printer components.

16

25. The method of claim 19, comprising providing a set of ink metering instructions to an ink metering controller for dispensing ink to a printer, with the ink dispensing instructions being developed according to the estimate of the total number of pixels turned on.

26. The method of claim 19, wherein the estimation of the total number of pixels turned on performed according to the steps:

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PY = PI
P = 0
Loop over scan lines
  PY = PY + W*y
  IF PY > (PI + W*S), then exit scan lines loop
  PX = PY
  Loop over a set of image data bytes
    PX = PX + x
    IF PX > (PY + W) then exit the image data byte loop
    P = P + (number of pixels turned on in byte address
    by PX)
  End loop over image data bytes
End loop over scan lines
Image portion covered with said ink =

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$$\frac{P}{(W\bar{x}) * (S\bar{y}) * 8};$$

whereby a set of variables of the steps are defined as follows:

PI=a memory address of a first image data byte;

PY=a current scan line address;

PX=a current byte address;

S=a total number of scans in the digitized image;

WW=a width of scan line in bytes;

P=a total number of pixels turned on;

X=a first random variable with a sample value x and a mean value \bar{x} , approximately uniformly distributed between:

$$\frac{1}{2} \bar{x} \text{ and } \frac{3}{2} \bar{x}; \text{ and}$$

Y=a second random variable with a sample value y and a mean value \bar{y} , approximately uniformly distributed between:

$$\frac{1}{2} \bar{y} \text{ and } \frac{3}{2} \bar{y}.$$

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